



JP TRANSNAFTA
PETROLEUM PRODUCTS PIPELINE SYSTEM
THROUGH SERBIA

October 2017

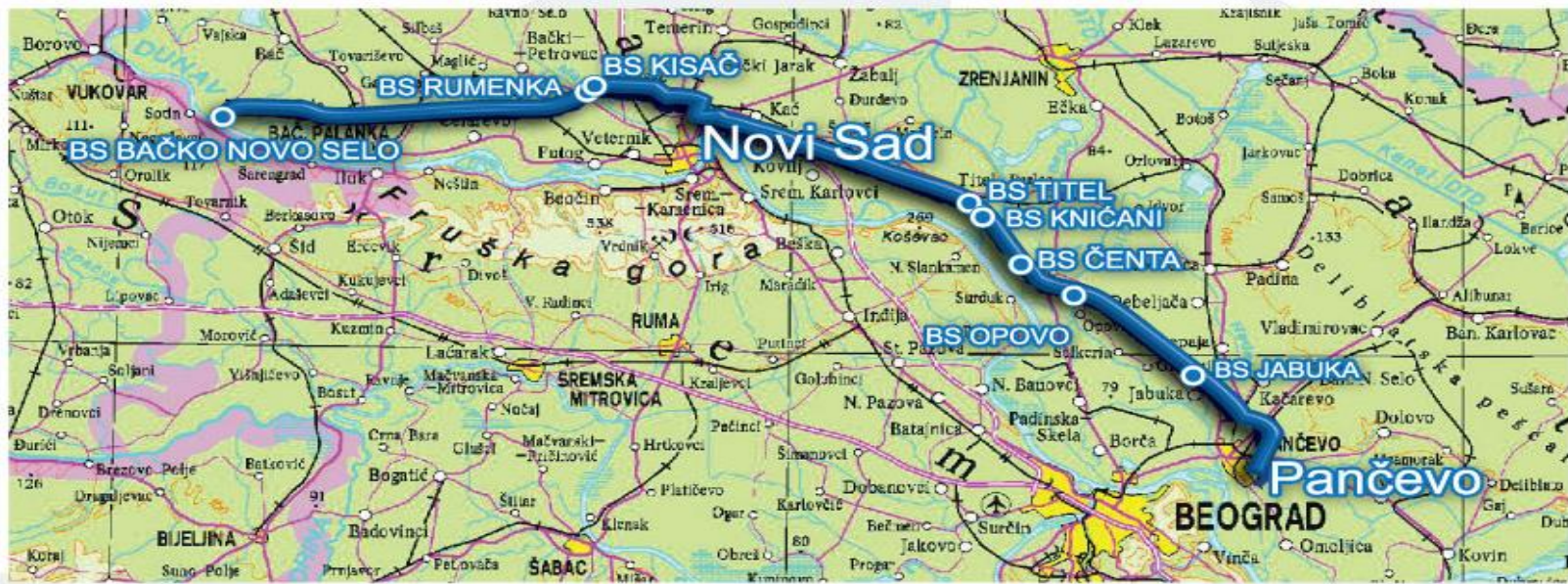
PUBLIC ENTERPRISE TRANSNAFTA – FACT SHEET

- ❑ Public enterprise founded by the Government of the Republic of Serbia in 2005
- ❑ Licensed for pipeline transport of crude oil and petroleum products as well as for storage of crude oil and petroleum products
- ❑ It operates on the route of ex-Yugoslav Oil Pipeline in length of 155 km from Croatian border to the oil refinery in Pančevo
- ❑ It supplies Pančevo Oil Refinery
- ❑ Total average transport volume – approx. 3 MTA (domestic production and imported crude oil)



PUBLIC ENTERPRISE TRANSNAFTA – INFRASTRUCTURE

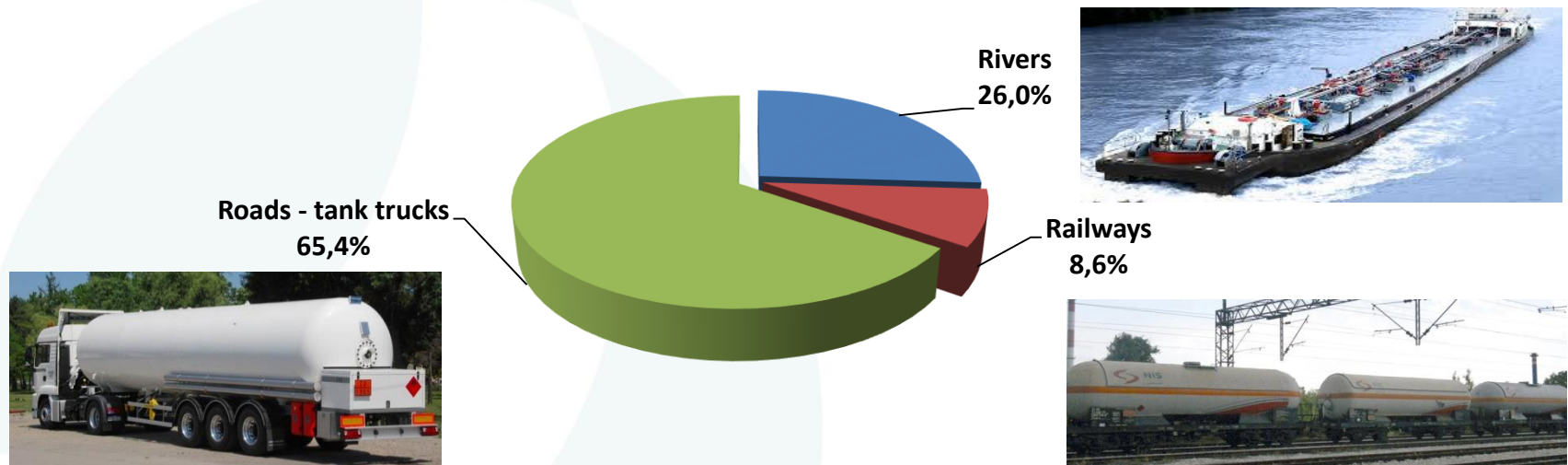
- **Oil pipeline** in length of 155 km from Croatian border to the oil refinery in Pančevo
- **Terminal in Novi Sad** with four storage tanks for crude oil, 10.000 m³ each, distribution center and pumping station
- **Metering station** in Pančevo
- **Eight block stations** along the oil pipeline route



MODES OF TRANSPORTATION OF MOTOR FUELS IN SERBIA

Conventional modes of transport: roads, railways, waterways

Distribution of different transport modes in the total transport of motor fuels in Serbia



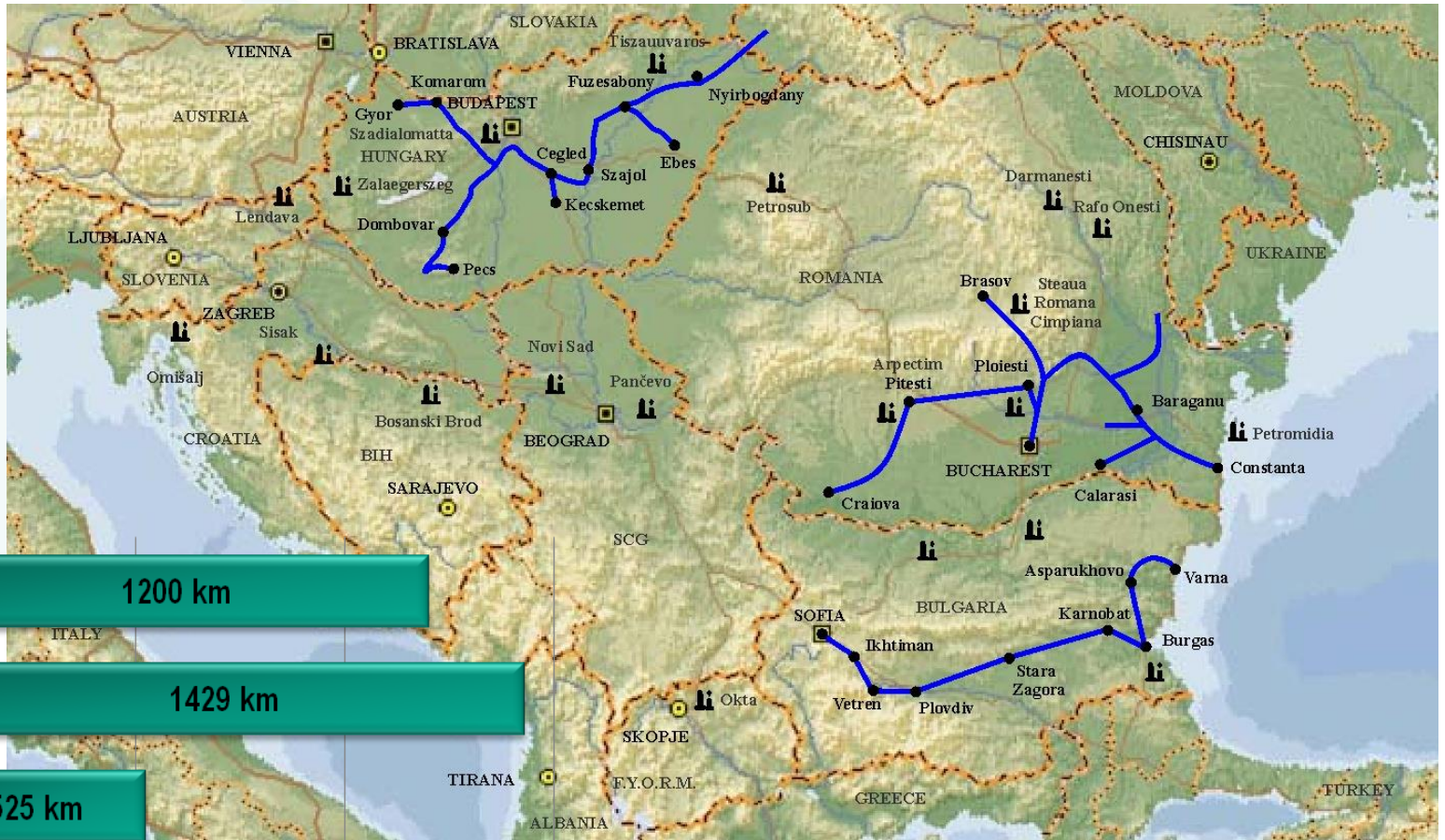
- ✿ In 2016 in Serbia was consumed around 2,5 million tons of motor fuels (gasoline and diesel)
- ✿ The rate of growth in consumption of motor fuels in Serbia is 3-4% per annum

WHY PRODUCT PIPELINE?

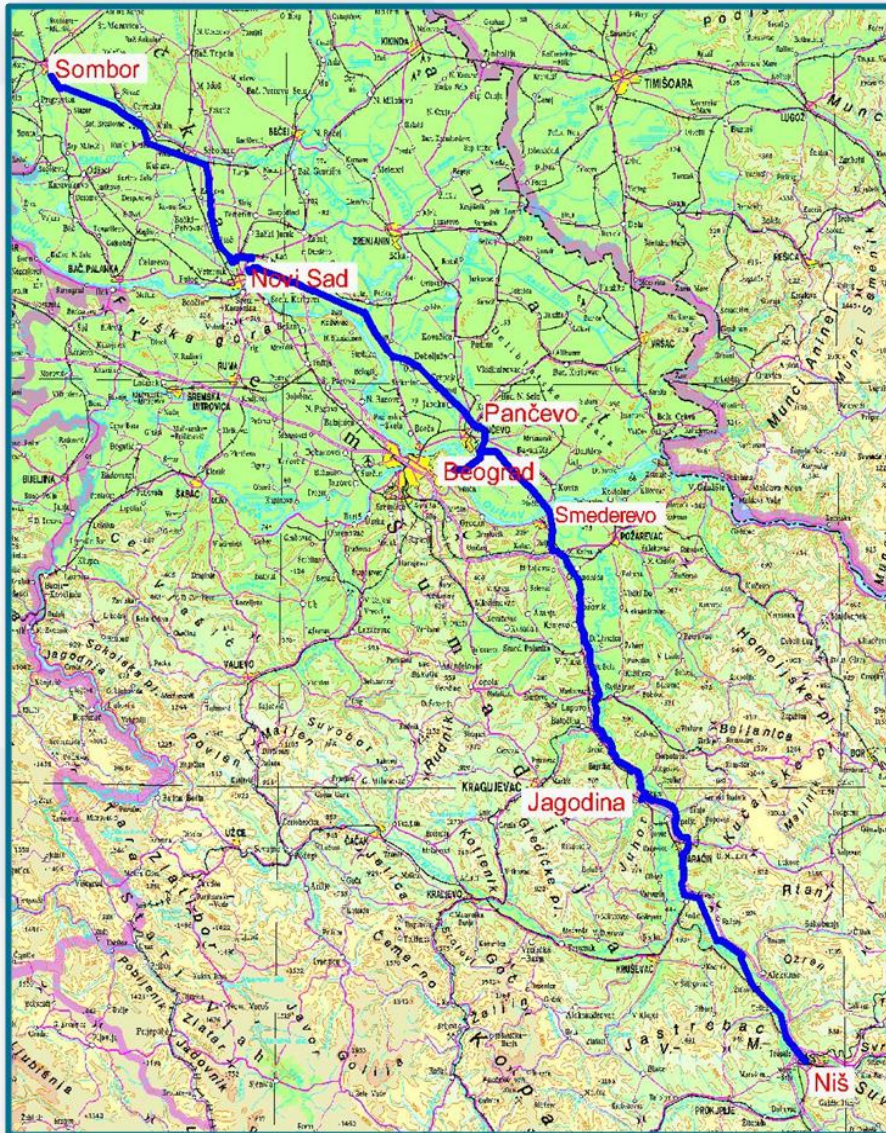
- ✓ Pipeline transport is the most efficient and cost-effective, environmentally-safe and most acceptable mode of transport
- ✓ Maximum security of supply – “just in time” delivery
- ✓ Minimum transport price
- ✓ Reduction of environment pollution (soil, water and air)
- ✓ Prevention of supply disturbance on state/regional level
- ✓ Possibility of regional states cooperation and market expansion
- ✓ Employment, regional development
- ✓ Obligatory ADN Agreement which regulates the transport of motor fuels by barges with double bottoms on inland waterways will greatly increase costs of river transport



PETROLEUM PRODUCTS PIPELINE SYSTEMS IN SURROUNDING COUNTRIES



PETROLEUM PRODUCTS PIPELINE SYSTEM THROUGH SERBIA



Single pipeline transport for gasoline and diesel

- Total length: **402km**
- Total capacity: **4,3 Mt/y**

Transport routes:

1. Pančevo – Smederevo – Jagodina – Niš
2. Pančevo – Novi Sad – Sombor
3. Pančevo – Beograd

• I FACILITY

- Sections Pančevo – Novi Sad
Pančevo – Smederevo

• II FACILITY

- Sections Smederevo – Jagodina
Jagodina – Niš

• III FACILITY

- Sections Pančevo – Beograd (optional)
Novi Sad – Sombor (optional, as interconnections with Hungary and Croatia)

PETROLEUM PRODUCT PIPELINE SYSTEM THROUGH SERBIA

Petroleum products pipeline distribution plan

Product pipeline system gives opportunities for possible regional interconnection, that is supported by the Treaty Establishing the Energy Community of the Countries in South East Europe

The possibility of interconnection of petrochemical product pipelines for placement of petroleum products from Pančevo Oil Refinery to Romanian market is also considered. In the previous period these product pipelines were used for transport of propylene and ethylene



PRODUCT PIPELINE SYSTEM THROUGH SERBIA

I FACILITY : SECTIONS PANČEVO – NOVI SAD AND PANČEVO - SMEDEREVO



- **I Phase 32,8 mil EUR :**
 - Terminal Pančevo
 - Section Pančevo – Smederevo
 - Terminal Smederevo
 - Section Pančevo – Novi Sad
 - Terminal Novi Sad
- **II Phase 18,3 mil EUR :**
 - Tanks 4x5.000 m³ for diesel and 4x5.000m³ for gasoline at Pančevo Terminal
 - Tanks 2x13.000 m³ for diesel and 2x5.000 m³ for gasoline at Smederevo Terminal
- **III Phase 6,2 mil EUR :**
 - Pump station at Smederevo Terminal for delivery towards Jagodina
 - Pump station at Novi Sad Terminal for delivery towards Sombor (optional)

PRODUCT PIPELINE SYSTEM – FIRST FACILITY:

Pipeline sections Pančevo-Smederevo and Pančevo-Novi Sad

Pančevo – Smederevo Section

Length: approx 26.9 km

Pipeline diameter: 12"

Route: parallel to gas pipeline RG-01-10

Danube River crossing

- ❑ **Pančevo Terminal**
 - pumping station
 - metering station
 - tanks

- ❑ **Smederevo Terminal**
 - pumping station
 - metering station
 - tanks

Pančevo – Novi Sad Section

Length: 91.4 km

Pipeline diameter: 10"

Route: parallel to existing crude oil pipeline

3 river crossings (Tisa and Tamiš)

- ❑ **Pančevo Terminal**
 - pumping station
 - metering station
 - tanks

- ❑ **Novi Sad Terminal**
 - existing tanks RNS
 - pumping station
 - metering station

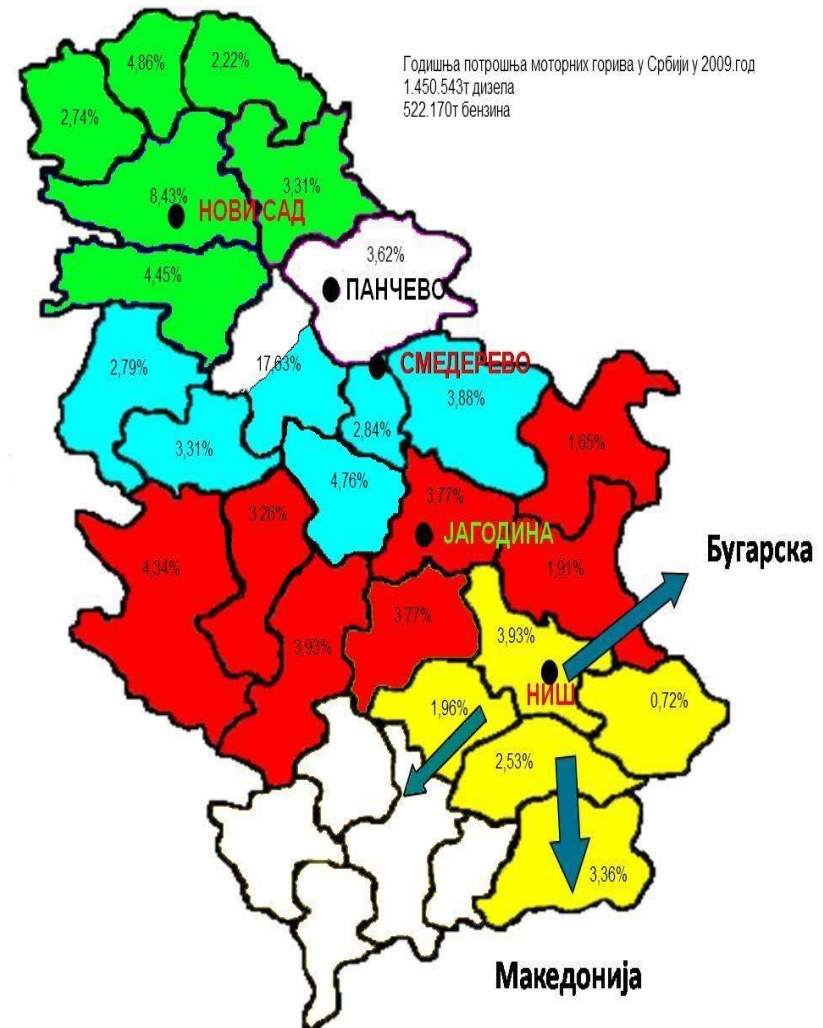


DISTRICT PARTICIPATION IN TOTAL CONSUMPTION OF MOTOR FUELS IN SERBIA

Supply of districts from terminals:

<u>Smederevo</u>	Mačva, Kolubara, Šumadija, Podunavlje, Braničevo and 50% City of Belgrade;
<u>Jagodina</u>	Zaječar, Bor, Pomoravlje, Rasina, Raška, Morava and Zlatibor ;
<u>Niš</u>	Niš, Toplica, Pirot, Jablanica and Pčinj;
<u>Novi Sad</u>	City of Novi Sad, South Bačka, Srem, North Bačka, Western Bačka, North Banat, Middle Banat;

From Niš Terminal, as it was planned, 50% of Kosovo market and 5 % of the market of Macedonia will be also supplied. In addition, it is also planned to supply 6% of Bulgarian market (according to the Study on motor fuel consumption, "Konzit" 2006)



CONSTRUCTION OF PRODUCT PIPELINE SECTIONS :

Pančevo-Smederevo and Pančevo-Novı Sad

Cost Estimation for Construction Phase I

- Construction in three phases:

PHASE I: construction of petroleum products pipeline connecting oil refinery in Pančevo with existing tanks in Smederevo and Novi Sad

PHASE II: construction of new tanks in Pančevo and Smederevo

PHASE III: new pumps for transport to Jagodina and Sombor

PHASE I – cost estimation:

	Material (€)	Construction (€)		
1. PIPE ROUTING	7.653.794	10.253.059	Investment cost including engineering (3%) – total (excluding VAT)	
Section Pa-Sd DN 300	2.132.303	2.579.290		
Section Pa-NS DN 250	4.806.933	7.430.493		
Block station	714.558	243.276		
2. TERMINALS	8.973.578	2.399.358		
Pančevo Terminal	6.861.801	1.737.448	Material (€)	Construction (€)
Smederevo Terminal	1.441.955	484.201	17.126.193	15.545.190
Novi Sad Terminal	669.822	177.709	TOTAL	
3. OTHER COSTS	0	2.440.000	32.861.025	

PHASE I – only Pančevo-Smederevo section – cost estimation of cca 18.000.000 EUR is including Pančevo Terminal, product pipeline route to Smederevo and metering station in Smederevo

PRODUCT PIPELINES

Smederevo-Jagodina and Jagodina-Niš Sections

Smederevo-Jagodina Section

Length: approx 92.3 km
Pipeline diameter: 12”
Route: parallel to gas pipelines RG-08-01 and MG-08

Velika Morava river crossing

Bagrdan mountain crossing

- ❑ **Jagodina Terminal**
 - pumping station
 - metering station
 - tanks



Jagodina-Niš Section

Length: approx 102.1 km
Pipeline diameter: 10”
Route: parallel to gas pipelines MG-08, MG-09 and RG-09-01

2 Južna Morava river crossings

“Mečka” mountain crossing

- ❑ **Niš Terminal**
 - metering station



PRODUCT PIPELINES - optional Novi Sad-Sombor and Pančevo-Beograd Sections

Novi Sad-Sombor Section

Length: approx. 92.2 km

Pipeline diameter: 8"

Route: parallel to gas pipeline
RG-04-15 and E-75 highway

4 DTD irrigation canal crossings

- ❑ **Novi Sad Terminal - optional**
 - pumping station
 - metering station
- ❑ **Sombor Terminal - optional**
 - metering station
 - tanks



Pančevo-Beograd Section optional

Length: approx. 10-20 km

(depending on selection of terminal location)

Pipeline diameter: 8"

Danube river crossing

- ❑ **Pančevo Terminal**
 - pumping station
 - metering station
 - tanks
- ❑ **Beograd Terminal - optional**



RESUME OF THE FEASIBILITY STUDY – I PHASE

Income Statement (2022 year)	000 €
Total income	5.558
Total expenses	3.184
Operating costs	764
Electricity variable costs	176
Electricity fixed costs	58
Employees salaries gross	198
Other fixed business costs	333
Amortization	1.539
External financing costs	880
Profit before taxation	2.374
Income tax	237
Net profit	2.137

Project Economic and Financial Assessment (DR = 5%)

Net present value	48,25 mil €
Internal rate of return	13,15%
Return of investment (dynamic)	10,2 years

Project Social Rentability (SDR= 5 %)

Net present value	63,4 mil €
Social rate of return	15,2%
Return of investment (dynamic)	9,2 years

Sensitivity analysis (dinamic): Rentability limit based on discounted flow (NPV=0)

Variables	Change	Projected	After change
Total Investment (mil €)	163,0 %	32,86	86,4
Average sale price (€/t)	-54,0 %	2,91	1,34
Operating costs (mil €)	414,6 %	0,77	3,96
Volume of pipeline transport (t/y)	-56,3 %	1.957.201	854.842

Projected volume of pipeline transport (000 t/y)

	2014	2022
Pančevo-Smederevo section	991	1.215
Pančevo-Novı Sad section	567	695

PETROLEUM PRODUCTS PIPELINE SYSTEM THROUGH SERBIA

Activities on the Project Implementation

❑ Done

- ❑ Prefeasibility Study with General Design for all pipeline sections
- ❑ Signing up MoU
- ❑ Completion and adoption of the Spatial Plan of Special Purpose Area for Petroleum Products Pipeline System through Serbia
- ❑ Feasibility Study with Basic Design and EIA Study for Pančevo-Novi Sad and Pančevo-Smederevo pipeline sections
- ❑ Cadastral Study (NS-PA-SD)
- ❑ Proclamation on Public interest for the partial expropriation
- ❑ Detailed Regulation Plan for the central complex of Pančevo Terminal
- ❑ Signing of Letter of Intent on using system with NIS-Gaspromneft
- ❑ Location permit for the I Facility
- ❑ Submitted request for construction permit for the I Facility of the product pipeline

❑ To be done

- ❑ Detailed Design for Pančevo-Smederevo Section (in progress)
- ❑ Next steps would include procurement & construction, commissioning & start up

Thank you for your attention!

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